

# Mycoplasma

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## Systematic position

Kingdom Bacteria

Class-- Mollicutes

Order-- Mycoplasmatales

Family – Mycoplasmataceae

Genus – Mycoplasma

## INTRODUCTION :

Wall-less bacteria , occurring in nature as disease causing agent of plants, animals, and human beings

Mycoplasma cells, the smallest known cell, capable of growing in cell free medium forming fried egg shaped colonies.

They are very small, unicellular, usually non-motile prokaryotic organism. Morphology varies according to physical nature of surrounding medium.

## Shape :-

They are highly pleomorphic, called' joker' in micro-biology pack, showing small coccoid bodies, ring forms and fine filaments which may be branched.

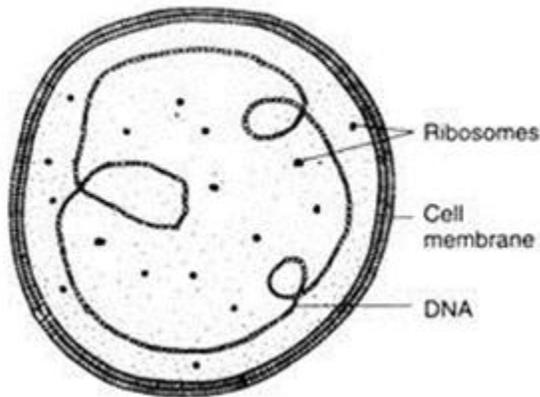
## Size:

0.2 to 0.9 micrometer in diameter.

## Structure :-

Cell wall is absent. Cell is bounded by a triple layered, highly elastic unit membrane. It is 75A<sup>0</sup> to 110A<sup>0</sup> thick. It is made up of lipo-protein. In cell nucleus and other membrane bounded organelles are absent.

The cytoplasm of mycoplasma cell is packed with 70S ribosomes, naked circular chromosome of fibrillar DNA, some vacuoles. Both DNA & RNA as genetic material.



**Fig 1. Cell structure of Mycoplasma.**

#### **Nutrition :**

Some saprophytes but the majority are parasites of plants and animals. Parasitic nature is due to the inability of mycoplasma to synthesize the required growth factor. It usually requires sterol for growth.

#### **Reproduction :-**

It takes place by binary fission. Splitting of a fully grown cell into two approximately equal parts.

#### **Economic importance:-**

Mycoplasma causes important diseases of plants, animals and human beings.

Some important plants and human diseases:-

Plants diseases --Citrus greening, Tomato purple top, Potato witch's broom. etc.

Human diseases --Pneumonia, leukemia etc.

#### **Control:**

Due to the absence of cell wall it is insensitive to enzymes and penicillin but it is killed by tetracycline and other antibiotics, which affect cell metabolism rather than cell wall.

#### **Conclusion:-**

These are considered to be the smallest free living organisms capable of self replication. The cell structure is very simple and are reproduced by binary fission.